



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/733,683

12/12/2003

Seon-Soo Rue

P56923

9043

7590
Robert E. Bushnell
Suite 300
1522 K Street, N.W.
Washington, DC 20005

09/02/2008

EXAMINER

AJIBADE AKONAI, OLUMIDE

ART UNIT

PAPER NUMBER

2617

MAIL DATE

DELIVERY MODE

09/02/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/733,683	Applicant(s) RUE, SEON-SOO	
	Examiner OLUMIDE T. AJIBADE AKONAI	Art Unit 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,12-15,18-24,27 and 28 is/are rejected.
- 7) ☒ Claim(s) 4,6-11,16,17,25 and 26 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>06/02/08,06/15/2004,12/12/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to because of minor informalities. Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Fig. 1 is disclosed/described in the “**Description of the Related Art**” section of the specification, therefore indicating that figure 1 is prior art. Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled “Replacement Sheet” in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

AFFIDAVIT UNDER 37 CFR § 1.131

2. The affidavit filed on June 2, 2008 under 37 CFR 1.131 has been considered but is ineffective to overcome the Lee et al 20050117524 reference. The Lee reference claims priority to provisional application 60/425,109 filed November 28, 2002, which is before the December 16, 2002 filing date of Korean Serial Number 10-2002-80463, that the current application claims priority to. Therefore, Lee et al may be used as a appropriate prior art reference against the claims of the instant application.

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 27 and 28 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 27 and 28 are directed to **“a computer program”**. The claimed computer program does not define any structural and functional interrelationship between the computer program and other claimed embodiments of a computer which permit the computer program’s functionality to be realized. Since a computer program is merely a set of instructions capable of being executed by a computer, the computer program itself is not a process and is thus nonstatutory functional descriptive material. Examples of acceptable language in computer-processing related claims are "computer-readable medium" encoded with “a computer program”, "computer-readable medium" encoded with “a computer-executable instructions” and "computer-readable medium" having stored a “computer program”.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
 2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
5. Claims 1, 2, 12, 13, 15, 18, 19, 21, 22, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lee et al 20050117524 (hereinafter Lee)** in view of **Sundar et al 20030134650 (hereinafter Sundar)**.

Regarding **claim 1**, Lee discloses a method for supporting mobility of a wireless local area network voice terminal using a data line, comprising: performing a probe process during association signaling (see p.1-2, [0013]) between the wireless local area network voice terminal (STA, see p.1, [0013]) and a first access point (prior-AP, see p.2, [0014]) where the wireless local area network voice terminal roams to a second access point (post-AP, see p.1, [0010], [0013], p.2, [0013]-[0014]); performing a media access control address authentication process by the wireless local area network voice terminal and the second access point (authentication phase, see p.2, [0014]); performing by a circuit interface unit (STA performing a handoff from AP_A to AP_B, see p.5, [0061]), handover by using terminal information of the wireless local area network voice terminal and media access control address information of the first access-point upon the re-association request of the wireless local area network voice terminal through the second access point (IAPP handoff procedure from AP_A to AP_B, during which the STA will

Art Unit: 2617

send a reassociation request frame 507 to the post-AP, AP_B, and in the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA, see fig. 5, p.5, [0061]); and performing an association signaling process after the handover by the wireless local area network voice terminal and the second access point (reassociation request response 509, see fig. 5, p.5, [0061]).

Lee does not specifically disclose wherein the data line is an Integrated Services Digital Network (ISDN) line.

Sundar however, discloses a method for supporting mobility of a wireless local area network voice terminal (mobile station 310, see figs. 27 and 29, p.8, [0099]) using a data line, wherein the data line is an Integrated Services Digital Network (ISDN) line (mobile station 310 in a WLAN 200 with the access points in the WLAN connected to a PBX by an ISDN link, wherein mobility management is supported in the WLAN, see p.8, [0097]-[0099], p.9, [0102]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Sundar, by connecting a wireless LAN access point to a PBX via ISDN PRI links, into the system of Lee for providing mobility for a mobile station to operate in different networks.

Regarding **claims 2, 13, 19, and 22** as applied to claims 1, 12, 18 and 21 Lee further discloses further comprising of transmitting by the second access point, additional information to the wireless local area network voice terminal (509, see fig. 5, p.5, [0061]), when the second access point receives a re-association request signal

Art Unit: 2617

(507, see fig. 5, p.5, [0061]) from the wireless local area network voice terminal (STA, see p.1, [0013]) in the step of performing the handover by the circuit interface unit (see fig. 5, p.5, [0061]).

Regarding **claims 5 and 15** as applied to claims 1 and 12, Lee discloses wherein the step of performing the media access control address authentication process comprises: transmitting by the wireless local area network voice terminal (STA, see p.1, [0013]), a media access control authentication request signal including a media access control address to the second access point (see p.5, [0061]); performing authentication by using stored media access control address information by the second access point (see p.5, [0015]); and transmitting by the second access point, a media access control authentication completion response signal to the wireless local area network voice terminal, when the wireless local area network voice terminal can be associated with the second access point as a result of authentication (IAPP handoff procedure from AP_A to AP_B, during which the STA will send a reassociation request frame 507 to the post-AP, AP_B, and in the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA; and authentication of the STA after the reassociation response message, see fig. 5, p.5, [0061]).

Regarding **claims 12 and 21**, Lee discloses a method for supporting mobility of a wireless local area network voice terminal using a data line, comprising: performing a probe process (see p.1-2, [0013]) during an active call between the wireless local area network voice terminal (STA, see p.1, [0013]) and a first access point (prior-AP, see p.2,

Art Unit: 2617

[0014]) where the wireless local area network voice terminal roams to a second access point (post-AP, see p.1, [0010], [0013], p.2, [0013]-[0014], p.5-6, [0068]); performing a media access control address authentication process by the wireless local area network voice terminal and the second access point (authentication phase, see p.2, [0014]); performing a handover by a circuit interface unit (STA performing a handoff from AP_A to AP_B, see p.5, [0061]) by using terminal information of the wireless local area network voice terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal through the second access point (IAPP handoff procedure from AP_A to AP_B, during which the STA will send a reassociation request frame 507 to the post-AP, AP_B, and in the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA, see fig. 5, p.5, [0061]); performing an association signaling process after performing the handover by the wireless local area network voice terminal and the second access point (reassociation request response 509, see fig. 5, p.5, [0061]); and setting up a call and providing voice communication by the second access point after the association signaling process (see p.5, [0061]).

Lee does not specifically disclose wherein the data line is an Integrated Services Digital Network (ISDN) line.

Sundar however, discloses a method for supporting mobility of a wireless local area network voice terminal (mobile station 310, see figs. 27 and 29, p.8, [0099]) using a data line, wherein the data line is an Integrated Services Digital Network (ISDN)

Art Unit: 2617

line (mobile station 310 in a WLAN 200 with the access points in the WLAN connected to a PBX by an ISDN link, wherein mobility management is supported in the WLAN, see p.8, [0097]-[0099], p.9, [0102]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Sundar, by connecting a wireless LAN access point to a PBX via ISDN PRI links, into the system of Lee for providing mobility for a mobile station to operate in different networks.

Regarding **claim 18**, Lee discloses an apparatus for supporting mobility of a wireless local area network voice terminal using a data line, comprising: a plurality of access points including a first and second access points (AP_A, AP_B, see fig. 5, p.5, [0060]); the wireless local area network voice terminal (STA, see p.1, [0013]) roams to the second access point (moving from AP_A to AP_B, see p.1, [0010], [0013], p.5-6, [0068]) and performs a probe process during association signaling between the wireless local area network voice terminal and the first access point (see p.1-2, [0013]), the wireless local area network voice terminal and the second access point perform a media access control address authentication process (authentication phase, see p.2, [0014]); and a circuit interface unit (STA performing a handoff from AP_A to AP_B, see p.5, [0061]) performs handover by using terminal information of the wireless local area network voice terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal through the second access point (IAPP handoff procedure from AP_A to AP_B, during which the STA will send a reassociation request frame 507 to the post-AP, AP_B, and in

Art Unit: 2617

the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA, see fig. 5, p.5, [0061]), the wireless local area network voice terminal and the second access point perform an association signaling process after the handover (reassociation request response 509, see fig. 5, p.5, [0061]).

Lee does not specifically disclose wherein the data line is an Integrated Services Digital Network (ISDN) line.

Sundar however, discloses a method for supporting mobility of a wireless local area network voice terminal (mobile station 310, see figs. 27 and 29, p.8, [0099]) using a data line, wherein the data line is an Integrated Services Digital Network (ISDN) line (mobile station 310 in a WLAN 200 with the access points in the WLAN connected to a PBX by an ISDN link, wherein mobility management is supported in the WLAN, see p.8, [0097]-[0099], p.9, [0102]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Sundar, by connecting a wireless LAN access point to a PBX via ISDN PRI links, into the system of Lee for providing mobility for a mobile station to operate in different networks.

Regarding **claim 27**, Lee discloses a computer program for supporting mobility of a wireless local area network voice terminal using a data line embedded on a computer-readable medium and executable by a computer, said computer program comprising the steps of: performing a probe process (see p.1-2, [0013]) during an active call between the wireless local area network voice terminal (STA, see p.1, [0013]) and a first

Art Unit: 2617

access point (prior-AP, see p.2, [0014]) where the wireless local area network voice terminal roams to a second access point (post-AP, see p.1, [0010], [0013], p.2, [0013]-[0014], p.5-6, [0068]); performing a media access control address authentication process by the wireless local area network voice terminal and the second access point (authentication phase, see p.2, [0014]); performing a handover by a circuit interface unit (STA performing a handoff from AP_A to AP_B, see p.5, [0061]) by using terminal information of the wireless local area network voice terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal through the second access point (IAPP handoff procedure from AP_A to AP_B, during which the STA will send a reassociation request frame 507 to the post-AP, AP_B, and in the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA, see fig. 5, p.5, [0061]); performing an association signaling process after performing the handover by the wireless local area network voice terminal and the second access point (reassociation request response 509, see fig. 5, p.5, [0061]); and setting up a call and providing voice communication by the second access point after the association signaling process (see p.5, [0061]).

Lee does not specifically disclose wherein the data line is an Integrated Services Digital Network (ISDN) line.

Sundar however, discloses a method for supporting mobility of a wireless local area network voice terminal (mobile station 310, see figs. 27 and 29, p.8, [0099]) using a data line, wherein the data line is an Integrated Services Digital Network (ISDN)

Art Unit: 2617

line (mobile station 310 in a WLAN 200 with the access points in the WLAN connected to a PBX by an ISDN link, wherein mobility management is supported in the WLAN, see p.8, [0097]-[0099], p.9, [0102]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Sundar, by connecting a wireless LAN access point to a PBX via ISDN PRI links, into the system of Lee for providing mobility for a mobile station to operate in different networks.

Regarding **claim 28**, Lee discloses a computer program for supporting mobility of a wireless local area network voice terminal using data line embedded on a computer-readable medium having a data structure, said data structure comprising: a first field containing data representing performing a probe process (see p.1-2, [0013]) during association signaling between the wireless local area network voice terminal (STA, see p.1, [0013]) and a first access point (prior-AP, see p.2, [0014]) where the wireless local area network voice terminal roams to a second access point (post-AP, see p.1, [0010], [0013], p.2, [0013]-[0014], p.5-6, [0068]); a second field containing data representing performing a media access control address authentication process by the wireless local area network voice terminal and the second access point (authentication phase, see p.2, [0014]); a third field containing data representing performing by a circuit interface unit (STA performing a handoff from AP_A to AP_B, see p.5, [0061]), handover by using terminal information of the wireless local area network voice terminal and media access control address information of the first access point upon the re-association request of the wireless local area network voice terminal through the second access point (IAPP

Art Unit: 2617

handoff procedure from AP_A to AP_B, during which the STA will send a reassociation request frame 507 to the post-AP, AP_B, and in the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA, see fig. 5, p.5, [0061]); and a fourth field containing data representing performing an association signaling process after the handover by the wireless local area network voice terminal and the second access point (see p.5, [0061]).

Lee does not specifically disclose wherein the data line is an Integrated Services Digital Network (ISDN) line.

Sundar however, discloses a method for supporting mobility of a wireless local area network voice terminal (mobile station 310, see figs. 27 and 29, p.8, [0099]) using a data line, wherein the data line is an Integrated Services Digital Network (ISDN) line (mobile station 310 in a WLAN 200 with the access points in the WLAN connected to a PBX by an ISDN link, wherein mobility management is supported in the WLAN, see p.8, [0097]-[0099], p.9, [0102]).

It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Sundar, by connecting a wireless LAN access point to a PBX via ISDN PRI links, into the system of Lee for providing mobility for a mobile station to operate in different networks.

6. Claims 3, 14, 20, 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Lee et al 20050117524 (hereinafter Lee)** in view of **Sundar et al**

Art Unit: 2617

20030134650 (hereinafter Sundar) as applied to claims 1, 12, 18 and 21 above, and further in view of **Lappetelainen et al 6,834,045 (hereinafter Lappetelainen)**.

Regarding claims 3, 14, 20 and 23, as applied to claims 1-2, 12-13, 18-19, 21-22, Lee discloses the claimed limitation except wherein the additional information which the second access point transmits to the wireless local area network voice terminal is status information notifying whether the current status of the second access point is busy or idle.

In a similar art, Lappetelainen discloses wherein the additional information which the second access point transmits to the wireless local area network voice terminal is status information notifying whether the current status of the second access point is busy or idle (receiving a busy or idle indication signal from an access point, see col. 8, lines 45-67, col. 9, lines 1-6). It would therefore have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teaching of Lee, by having a mobile station listen to transmissions from an access point, for the benefit of determining during a handover measurement if an access point is idle or busy.

Regarding **claim 24**, as applied to claim 21-23, Lee further discloses wherein the step of performing the media access control address authentication process comprises: transmitting by the wireless local area network voice terminal (STA, see p.1, [0013]), a media access control authentication request signal including a media access control address to the second access point (see p.5, [0061]); performing authentication by using stored media access control address information by the second access point (see

Art Unit: 2617

p.5, [0015]); and transmitting by the second access point, a media access control authentication completion response signal to the wireless local area network voice terminal, when the wireless local area network voice terminal can be associated with the second access point as a result of authentication (IAPP handoff procedure from AP_A to AP_B, during which the STA will send a reassociation request frame 507 to the post-AP, AP_B, and in the IAPP handoff procedure, the reassociation request contains the MAC address of the prior-AP, AP_A, and the identification information the STA; and authentication of the STA after the reassociation response message, see fig. 5, p.5, [0061]).

Allowable Subject Matter

7. Claims 4, 6-11, 16, 17, 25 and 26 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the

Art Unit: 2617

shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLUMIDE T. AJIBADE AKONAI whose telephone number is (571)272-6496. The examiner can normally be reached on M-F, 8.30p-5p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles Appiah can be reached on 571-272-7904. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only.

Art Unit: 2617

For more information about the PAIR system, see <http://pair-direct.uspto.gov>.

Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

OA

/Charles N. Appiah/

Supervisory Patent Examiner, Art Unit 2617